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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,953	02/14/2001	Atsushi Murakami	P 277864	9766

909 7590 08/02/2002

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EXAMINER

MILLER, PATRICK L

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 08/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,953

Applicant(s)

MURAKAMI ET AL.

Examiner

Patrick Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 2, 5, and 9 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
 - The coefficient of water absorption, cited with units g/cm³, does not clearly define a property of the shape foam memory. Referencing ASTM D570 and ISO 62, water absorption is the relative rate of water absorption by the resin when immersed in water. Quantitative values for water absorption using ASTM D570 and ISO 62 are in percentages.
2. Claims 1, 2, 4, 5, 6, 8, 9, 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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- The term "substantially" in claims 1, 4, and 8 is a relative term which renders the claims indefinite. "Substantially" does not adequately define the degree of shape recovery.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Brenner (4,181,780).

- Brenner clearly discloses foams with memory characteristics produced by compressing the foam at temperatures above the usual use temperature (deformed state), cooled to room temperature and released from compression. The released, cooled foam does not return to its original shape until heated to the temperature at which it was originally compressed (Col. 12, lines 38-55). Brenner further discloses foam densities of 2 lbs/ft³ (32.04 kg/m³) or lower (Col. 14, lines 58-64).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 3, 4, 6, 7, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osanai (6,237,717) and Brenner (4,181,780).

- Osanai discloses a noise-insulating (Col. 1, lines 7-8) top-cover for an engine (Col. 1, lines 20-21), where the cover has urethane foam or other foam body fixed to the rigid cover body (Col. 1, lines 25-29). Osanai does not specify the foam body is shape memory foam type and does not disclose the shape memory foam member functions by compressing while heating (deformed state), cooling while compressed, released after cooled (with no compression—remains in deformed state), and heated to recover the original shape. Additionally, Osanai does not disclose shape memory foam where the bulk density is not more than 400 kg/m³.
- With respect to claims 3, 4, 7, and 8, Brenner clearly discloses a foam with memory characteristics that is produced by compressing the foam at temperatures above the usual use temperature (deformed state), cooled to room temperature and released from compression. The released, cooled foam does not return to its original shape until heated to the temperature at which it was originally compressed (Col. 12, lines 38-55). Brenner teaches the foam may be used to fill voids for both insulation and sound deadening applications (Col. 12, lines 55-60).
- With respect to claims 6 and 10, Brenner discloses shape-foam, as described with respect to claims 3, 4, 7, and 8 with densities below 400 kg/m³, specifically densities of 2 lbs/ft³ (32.04 kg/m³) or lower (Col. 14, lines 58-64).
- Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the engine cover as taught by Osanai with a

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shape memory polymer member that has a density below 400 kg/m^3 and functions by compressing while heated, cooling while compressed, maintaining a deformed state when compression is removed, and recovering its original shape when heated. The modifications to the engine cover disclosed by Osanai can be used for void filling and enhance both the insulation and sound deadening applications, as taught by Brenner.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 703-308-4931. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 703-308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

plm
July 26, 2002


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